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Volume 33 | Issue 2

Article 11

1971

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Recommended Citation

VanMeter, William G. (1971) "Drug Abuse; Abusive Use of Drugs," *Iowa State University Veterinarian*: Vol. 33 : Iss. 2 , Article 11.
Available at: https://lib.dr.iastate.edu/iowastate_veterinarian/vol33/iss2/11

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Drug Abuse; Abusive Use of Drugs

by William G. VanMeter, A.B., B.S., Ph.D.*

Drug abuse or the abusive use of drugs has been brought into the limelight recently as regards man in western society. However, the abuse of medically usable materials has been with man since his early beginnings. If we can accept a definition of drug abuse as meaning the use of any drug in a manner that deviates from the accepted use within a given culture or society, then perhaps man's drug related problems began when he stopped being a food gatherer and hunter and started an agriculturalist's existence. Moreover, we need not go into ancient times in an effort to find primitive people involved with drug-like substances. The aborigines of Australia chew the leaves of the pituri plant which when chewed releases a nicotine-like material and is used as a "pick-

me-up." The Bushmen of Africa's Kalahari Desert and the Cape Hottentots smoked a form of *Cannabis sativa* (marijuana) until they were introduced to tobacco from Europe. Even today the South American Indian tribes descendant to the Inca's prefer to use the coca leaves which contain a well known substance, cocaine. Also, of interest historically, is the observation that such figures as Sherlock Holmes, Sigmund Freud, Dr. Halstead (inventor of the rubber surgical glove) and more recently Maurice Chevalier all had their problems with the stimulatory properties of cocaine. While pepper kava is used in the Pacific as an intoxicant, betel nut chewing is done in Malaya, India and Polynesia for its tobacco-like effects, khat tea is taken for its feeling of excitement, we find today in our western culture the intravenous administration of milk, peanut butter

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Table: Psychological Characteristics of Some Drugs Subject to Abuse

	Narcotic analgesics	Alcohols, barbiturates, minor tranquilizers	Cocaine, amphetamines	LSD mescaline
Tolerance	++++	++	Variable	Rapid onset, rapid loss
Physical Dependence	++++	++	+	—
Psychological Dependence	++++	++	+++	+or—
Symptoms of Intoxication	hunger, sex, and aggressive drives all decreased.	impaired perception, motor incoordination, confusion, emotional lability, coma.	restlessness, sympathetic stimulation, emotional lability, toxic psychoses	distorted perception, emotional lability, paranoid tendency.

oil, meat tenderizer, carrot juice, nutmeg and almost anything that can be imagined. Legislation obviously has some limitations, for one finds it difficult to imagine "illegal milk, illegal peanut butter oil, etc. . . !".

A professional man in the health related sciences assumes with his degree and license to practice, a position of leadership in the community. People, through confidence in your abilities as a practitioner will look towards you to solve their problems. A drug abuse issue is no less a problem. States that are oriented more towards an agricultural economy may well depend more on veterinarians as resource persons for issues other than those related strictly to the practice of Veterinary Medicine. Veterinarians use drugs extensively in their practice. Pharmacology and therapeutics is an important part of their professional training. Knowledge of action of drugs, and interaction of drugs is often the deciding factor in successful treatment or death of the animal. Furthermore, toxicology is an extremely essential science to the DVM, whether he is involved in large or small animal practice. Therefore, a brief evaluation of some elements of crucial value to the DVM presents one with the image of an ideal resource person for people in a community faced with a drug problem.

The nature of the drug problem today is a many faceted one and certainly not all facets have been exposed. Our old attitudes concerning drug problems are undergoing change and constant updating.

For example, it was once considered that a drug problem only existed if we had heroin addicts running the streets with pushers, wearing sunglasses and trench coats, leading little girls astray! While this attitude still prevails in some areas, most people are beginning to realize that drug problems are prevalent in most parts of our society and at most levels. Thus, the high school student, if not faced with a drug-taking decision at the local level will most certainly be faced with making a decision about drugs after he graduates and either goes to work in an urban area, or enters the military service, or enters college. What types of information are available for people and what types of people are available to transfer this information? Ask yourself this question, "If someone in my community wants to know something about drugs, to whom can he go?" If the answer is "To the first person who'll tell him anything," then maybe a resource person with some degree of qualification can be of help and that person could well be you. Other leaders in communities that can be of assistance are physicians, lawyers, school nurses, science teachers and certainly parents who are interested and who care.

If you become involved in issues of drug abuse you soon find that your knowledge of drug effects is more than adequate but that your understanding of people is far from acceptable. Above is listed in table form a brief summary of the psychological characteristics of some classes of drugs

subject to abuse.

Practically all of the recent texts in pharmacology and therapeutics contain at least one chapter relating specifically to drug abuse and these sources are recommended as starting points. Ask in your local community about ongoing programs and they will greatly appreciate your help. In particular, younger people will be of great help to you, through such organizations as the Boy Scouts of America, Girl Scouts of America, church youth groups, etc.

Here at Iowa State, students of veterinary Medicine from the sophomore, junior, and senior classes are working to prepare a desk reference on drugs of abuse for use by the DVM. In addition, they are preparing themselves to go out as resource people working with the author in a student-teacher relationship as he discusses drug abuse issues with different groups. While the problem of drug abuse isn't really new, maybe some answers will come from new people becoming involved.

The Trichiniasis Problem: Facts, Fallacies, and Future

by W. J. Zimmermann, Ph.D.*

Using adaptability to hosts and historical implications as criteria, *Trichinella spiralis* must be one of the oldest of disease producing organisms. Development of adaptability to hosts by a parasitic agent is regarded as a slow, evolving process. Natural host records for trichinae have been reported for over 100 species, with probably all mammals being susceptible to infection with this parasite.¹¹ In contrast, most other parasites are host specific, being infective to only one or a limited number of related host species. Historically, even though *T. spiralis* was not recognized as a disease entity in man until 1835 and in swine until 1846, trichiniasis is regarded as a possible reason for the admonition of the Mosaic law against eating pork.²

The interrelationships of the disease in man and swine have been studied by thousands of researchers dating back to Virchow in the mid-1800's. Virchow was the first to advocate compulsory microscopic examination of pork. Two anecdotes told about Virchow are of interest.² In addition to being an eminent pathologist, he also served as a leader of the Reichstag. As such he was challenged to a duel by Chancellor Bismarck. Having the choice of weapons, Virchow chose two sausages—one containing trichinae. The Chancellor abruptly withdrew his challenge. Another time he was advocating compulsory microscopic pork inspection. A veterinarian challenged the need for this. Upon heckling from those in attendance, the veterinarian ate raw pork. Five days later, he became ill, presumably from trichiniasis.

Even with all the attention given to

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